

## 5<sup>th</sup> Grade Science: Environment (Interdependence of Life and Evolution)



Content Area: Science Unit of Study: Interdependence of Life and Evolution  
Unit Beginning date: \_\_\_\_\_ Unit End date: \_\_\_\_\_

### Indiana Academic Standards:

#### **Science:**

- 5.4.4 Explain that in any particular environment, some kinds of plants and animals survive well, some do not survive well, and some cannot survive at all.
- 5.4.5 Explain how changes in an organism's habitat are sometimes beneficial and sometimes harmful.
- 5.4.6 Recognize and explain that most microorganisms do not cause disease and many are beneficial.
- 5.4.7 Explain that living things, such as plants and animals, differ in their characteristics, and that sometimes these differences can give members of these groups (plants and animals) an advantage in surviving and reproducing.

#### **Language Arts:**

##### **2. RDG COMPREHENSION:**

#### **Structural Features of Information and Technical Materials:**

- Use the features of informational texts, such as formats, graphics, diagrams, illustrations, charts maps, and organization, to find and find information and support understanding

#### **Comprehension and Analysis of Grade -Level-Appropriate Text:**

- Recognize main ideas presented in texts, identifying and assessing evidence that supports those ideas
- Draw inferences, conclusions, and generalizations about text and support them with textual evidence and prior knowledge.

#### **Expository (Information) Critique:**

- Distinguish among facts, supported inferences and opinions in text.

##### **4. WRITING PROCESS**

#### **Organization and Focus:**

- Use graphic organizers to plan writing
- Write informational pieces with multiple paragraphs that offer a concluding paragraph that summarizes important ideas and details

#### **Research and Technology:**

- Use note-taking skills
- Create simple documents using a computer and employing organizational features, such as passwords, entry and pull-down menus, word searches, the thesaurus, and spell checks
- Use a thesaurus to identify alternative word choices

##### **5. WRITING APPLICATIONS:**

#### **Different types of Writing**

- Write research reports about important ideas, issues, or events

#### **Information Literacy Skills:**

- 1.1 Recognizes need for information
- 1.2 Recognizes that accurate and comprehensive information is the basis for intelligent decision making
- 1.3 Formulates questions based on needs
- 1.4 Identifies a variety of potential sources of information
- 1.5 Develops and uses successful strategies for locating information
- 2.1 Determines accuracy, relevance, and comprehensiveness
- 2.2 Distinguishes among fact, point of view and opinion
- 2.3 Identifies inaccurate and misleading information
- 2.4 Selects information appropriate to the problem or question at hand
- 3.1 Organizes information for practical application
- 3.2 Integrates information into one's own knowledge
- 3.3 Applies information in critical thinking and problem solving
- 3.4 Produces and communicates information and ideas in appropriate formats
- 5.3 Develops creative products in a variety of formats
- 6.1 Assess the quality of the process and products of personal information seeking
- 7.1 Uses information technology responsibly

#### **Integrated Technologies:**

- Accesses electronic information sources
- Microsoft Publisher- create biome web pages or brochures

*(Students will understand that...)*

- Every living thing in life depends on other living and nonliving things.
- There is a chain reaction to environmental factors

## **Guiding Questions:**

*(Questions that help us uncover the Big Idea/ concepts)*

How do changes in the environmental factors of a habitat impact its plants, animals, and microorganisms?

What can be done to protect the environmental factors of the earth's habitats?

## **Key Skills and Processes:**

Students will know...	Students will be able to...
<ul style="list-style-type: none"><li>• differences and similarities of the earth's habitats</li><li>• types of plants and animals that live in each habitat</li><li>• locations of the habitats on a world map</li><li>• climates of the habitats</li></ul>	<ul style="list-style-type: none"><li>• Compare and contrast differences and similarities of the earth's habitats</li><li>• Analyze the affects of an environmental change on the survival of its plants and animals</li><li>• Recognize environmental threats and suggest ways to prevent them.</li></ul>

## **Assessment:**

*(How will students demonstrate learning?)*

<b>Performance Tasks:</b> <i>(Explain, interpret, apply, gain perspectives, demonstrate empathy, extend self-knowledge)</i>	<b>Other Evidence</b> <i>(Quizzes, tests, homework)</i>
<ul style="list-style-type: none"><li>• Design a website or brochure for a biome that shows its world locations, gives information about its plants and animals, and suggests methods for protecting the biome.</li><li>• Conduct experiments about the environmental effects of moisture and salinity, then draw about how these variables affect world biomes.</li></ul>	<ul style="list-style-type: none"><li>• Quizzes on terrestrial and aquatic biomes</li><li>• Quizzes on insects</li><li>• Lab work /observations</li><li>• Investigation responses</li></ul>

## **Learning Activities:**

*(Activities that lead students to the Big Idea and prepare them for performance tasks)*

1. As learning groups, students will research the climate, plants, animals, potential threats and environmental factors of the following habitats:  
Coral Reef, Freshwater, rain forest, Savanna, Desert, Seashore, Temperate Deciduous Forest, Temperate Grassland
2. Investigations:
  - Grow plants with various amounts of moisture
  - Grow plants with different amounts of salinity
  - Observe the activities of mealworms
  - Observe the affects of variable light intensity/exposure on mealworms
  - Observe the affects of variable soil moistness/dryness on darkling beetles
  - Observe the affects of variable salinity levels on brime shrimp
  - Observe the affects of variable acidity levels on elodea (water plants) and goldfish

## **Resources:**

General Encyclopedias

DK Nature Encyclopedia

Microsoft Explorapedia CD Rom

Encarta

Assortment of nonfiction books about biomes, habitats

*(Coral Reef, Desert, Freshwater, Rain forest, Savanna, Seashore, Temperate Deciduous Forest, Temperate Grassland)*

## **Online Resources:**

INSPIRE Kids-online periodical databases

Internet

## **Reflections:**

### **Teacher/ Media Specialist:**

*(What worked, what didn't?)*

Name\_\_\_\_\_

5<sup>th</sup> Grade

## Environment Information QUEST!

The environment I am research is\_\_\_\_\_

Questions to be answered:

***What can we do to protect the environmental factors of this habitat?***

Consider plants, animals, climate, food chain, and current environmental threats

***Our Questions:***

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***Keywords*** that may help locate information:

_____	_____
_____	_____
_____	_____

Use multiple sources of information:

- Reference:        \_\_\_\_\_ World Book Encyclopedia  
                             \_\_\_\_\_ DK Nature Encyclopedia  
                             \_\_\_\_\_ Grolier Student Encyclopedia of Science, Technology and the Environment
- CD Rom:        \_\_\_\_\_ Microsoft Explorapedia  
                             \_\_\_\_\_ Microsoft Encarta
- Online:        \_\_\_\_\_ INSPIRE- Inspire Kids-Use INSPIRE Activity sheet
- Nonfiction:       \_\_\_\_\_ Use catalog to locate nonfiction books in school collection

***Organize notes*** on Habitat Research Organizer sheet using short phrases; ***do not copy sentences from your sources!***

## Evaluate information:

- Check notes for accuracy...do sources agree on facts?
- Notes should be written in meaningful phrases using your own words; do not use complete sentences; do not copy directly from the source
- Have you recorded all of the bibliographic information about each source used?
- Do you have enough information to answer each of your questions?

## Summarize:

- Express facts in your own words
- Be sure you can answer each question completely
- Organize your notes to design your brochure or web page. Be sure your paragraphs are interesting, using topic sentence and supporting sentences.
- Be sure the maps about your environment include a key and are color coded.

## Technology:

- Use Microsoft Publisher to type your environment web pages or brochure. Check for spelling and grammar errors. Include interesting graphics that pertain to the information.

**! Wow! Look what I've learned!** Reflect on this research project:

*What sources were most useful?*

*What problems did you encounter?*

*What would you do differently next time?*

# Habitat Research Organizer

Name\_\_\_\_\_

Habitat:\_\_\_\_\_

Use several copies

<b>Source information</b>	<b>Plants</b>	<b>Animals</b>	<b>Climate</b>
Author(s): _____			
Title_____ _____			
Place of Publication: _____	<b>Environment Description</b>	<b>Environmental Threats</b>	
Publisher: _____			
Copyright: _____			

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Copyright: _____			

# INSPIRE Kids Online Research Activity

## Habitats

INSPIRE is an information resource available to all citizens of Indiana. It contains full text magazine, newspaper, and encyclopedia articles.

In this activity you will use INSPIRE to locate articles about the habitat you are researching.

1. Click on your internet browser (Internet Explorer; Netscape)
2. Type this internet URL: <http://www.inspire.net>

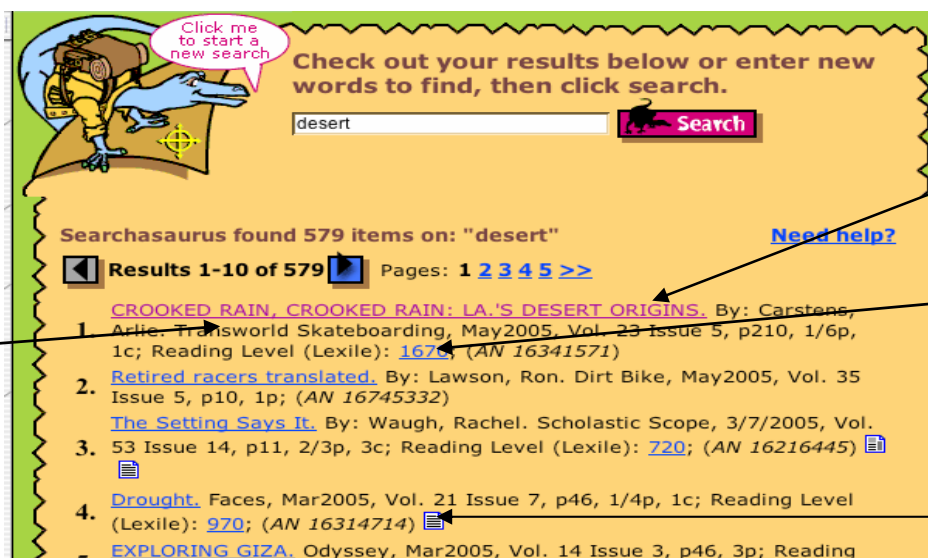
When the INSPIRE database page opens, select Inspire Kids.

3. On the search page:



- Click to select Primary Search.
- Type the environment you are researching, i.e. desert and click on Search

4. Scroll through the titles of articles to find an article you think will have information you need. Click on the article title to read a short summary of the article.



Article source

Click to see summary

Click to see Lexile range.

Click to read whole article

5. If the summary shows the article is not helpful, click on

[Return to list of results](#)

6. Record useful information on the Research organizer. Be sure to record the source information.

**Title:** *Deserts.*

**Source:** World Almanac for Kids; 2005, p69, 1/4p, 1c

**Document Type:** Article

**Subject Terms:** [ARID regions plants](#)  
[CACTUS](#)  
[DESERT plants](#)  
[DESERTS](#)  
[EXTREME environments](#)

**Abstract:** The article looks at plants in the *deserts*. The driest areas of the world are the *deserts*. They can be hot or cold, but they also contain an amazing number of plants. Cactuses and sagebrush are native to dry regions of North and South America. The *deserts* of Africa and Asia contain plants called euporbias. Dates have grown in the *deserts* of the Middle East and North Africa for thousands of years.

**Lexile:** [900](#)

**Full Text Word Count:** 101

**ISBN:** 0-88687-812-8

**Database:** Primary Search

7. When you have finished using Inspire Kids, log out by clicking Exit INSPIRE Kids in the right hand column.

[Exit INSPIRE Kids](#)

## Citing Inspire Sources:

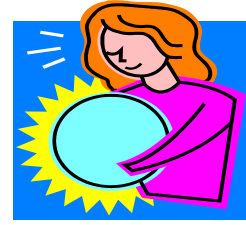
Author Last name, First name. "Title of Article." Magazine day Month year. INSPIRE ONLINE.  
Date you accessed.

### Example:

Farnham, Alan. "Pipe Dreams." Fortune 3 Mar.1997. INSPIRE ONLINE. 15 Aug. 2000



Name\_\_\_\_\_



## Environment Assessment

	<b>Variety of Sources</b>	<b>Notes</b>	<b>Summarizing Information</b>	<b>Project</b> (Web page or brochure)	<b>Use of Time</b>
<b>4</b>	Used 3 or more nonfiction books and 2 or more reference sources specific to the topic.	Notes are thorough, accurate, and written as phrases in own words.	Information is summarized in interesting paragraphs using descriptive phrases.	Project is neat and attractive; font is easy to read; contains at least 5 graphics that enhance the report.	Works independently; uses class and research time to the optimum.
<b>3</b>	Used 2 books and 1 encyclopedia source.	Notes are accurate and written as phrases in own words.	Information is written in complete sentences; paragraphs contain topic sentences and supporting information.	Project is neat; font is readable; contains at least 4 appropriate graphics; maps are accurate and contain color and key.	Stays on task.
<b>2</b>	Used one nonfiction book and one encyclopedia source.	Note information is minimal; cannot understand many of the notes.	Information is written in complete sentences.	Font is difficult to read; contains 3 or less appropriate graphics; maps are not accurate or are difficult to read.	Reminders needed to stay on task.
<b>1</b>	Used one source or less to locate information.	Note information is incomplete; contains sentences copied directly from source.	Many sentences are incomplete or do not make sense.	Project shows little effort. Font is unreadable; less than 3 appropriate graphics. Maps are inaccurate, no map key.	Requires continual prompting to stay on task and use time wisely.